

A NEW SPECIES OF HAEMANTHUS WITH A
PRELIMINARY NOTE ON THE STRUCTURE
OF THE BULB.

(With Plate 15.)

By FRANCES M. ISAAC.

Haemanthus Nortieri, Isaac, sp. nov. (Amaryllidaceae—Haemantheae.)

Bulbus globosus, long. ad 19 cm., diam. ad 10 cm., in collum productus, distincte lateraliter compressus, tunicis saturate brunneis obtectus. *Folium* unicum, long. ad 27 cm., lat. ad 15 cm., hysteranthum, erectum rotundatum vel obovatum, in petiolum basi attenuatum; lamina sordide viridis, ad basin rubescens, utrinque scabra, in juventute viscosa, margine rubro minute scabro. *Pedunculus* erectus, long. ad 20 cm., diam. ad 1.1 cm., compressus, inconspicue scaber, rubescens. *Umbella* densa, long. ad 4.5 cm., lat. ad 5 cm. *Bracteae* erectae long. ad 4.5 cm., lat. 2.5 cm., sordide rubrae, formis diversis, saepius ovato-lanceolatae, apice acutae. *Flores* erecti, crebri; pedicelli long. ad 2.5 cm. *Perianthium* sexpartitum, roseum; tubus long. 2 mm. angulatus, brevis; segmenta angusta, long. ad 1.5 cm., lat. 1.5 mm., apicibus obtusis incurvis. *Stamina* alba, long. 2.6 cm., e perianthio per 1.1 cm. exserta, bracteis aequantia, in tubi faucibus inserta. *Stylus* albus, demum staminibus aequans. *Stigma* minute trifida. *Ovarium* long. 3 mm., diam. 2 mm., oblongum, triangulatum. *Bacca* rubro-purpurea, seminibus 1—3, ovoideis, rubro-brunneis, nitentibus.

Hab. Cape Province: Clanwilliam Div.; Nardouw Mountains. *Salter* 3622. (*Type* in Bolus Herbarium.) *Nortier* in Nat. Bot. Gdns. 850/35. Flowered in February and March and fruits and leaves appeared in April at Kirstenbosch.

This remarkable *Haemanthus* was first discovered by Dr. P. le F. Nortier of Clanwilliam, and has subsequently been collected by Paymaster-Captain T. M. Salter. It differs from other existing species of the genus by the production of only one leaf each year, and is most closely allied to *Haemanthus undulatus* Herb. which has a similar bulb but produces two narrow undulate leaves.

By the courtesy of Dr. Nortier bulbs were received for dissection. This material indicates some interesting morphological features and it is

hoped to follow up this note with a more detailed study, including comparisons of the structure of the bulbs of other species of this genus.

In all, ten bulbs were carefully dissected and in none of them was any trace found of a second leaf or any rudimentary structure which might be assumed to represent a leaf.

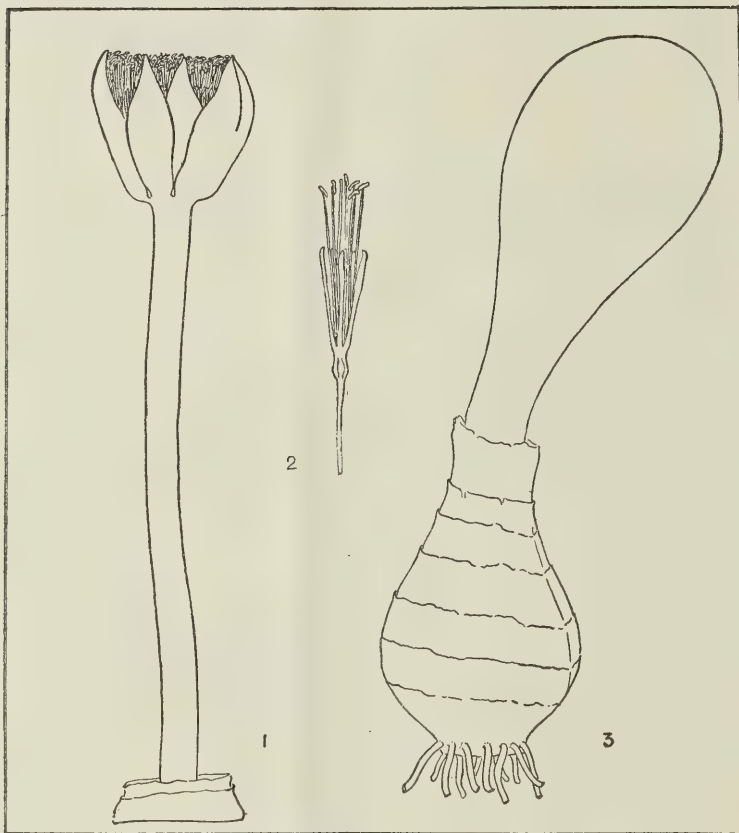


FIG. 1. *Haemanthus Nortieri*, Isaac. 1. Inflorescence $\times \frac{1}{2}$. 2. Single flower $\times 1$. 3. Bulb and leaf $\times \frac{1}{4}$.

Each scale completely encircles the bulb and can be differentiated into the actual basal portion of the leaf enclosing one half of the bulb and the sheath enclosing the other. (See Fig. 2, Nos. 1, 3, 7.). The bulb being laterally compressed in the same plane as the leaf surface, a trans-



PLATE 15. (Top) *Haemanthus Nortieri*, growing wild on the Nardouw Mountains, about 1,100 ft. alt., September, 1933. (Phot. T. M. Salter.) (Bottom) *Haemanthus Nortieri*, in cultivation at Kirstenbosch, September, 1936. (Phot. R. H. Compton.)

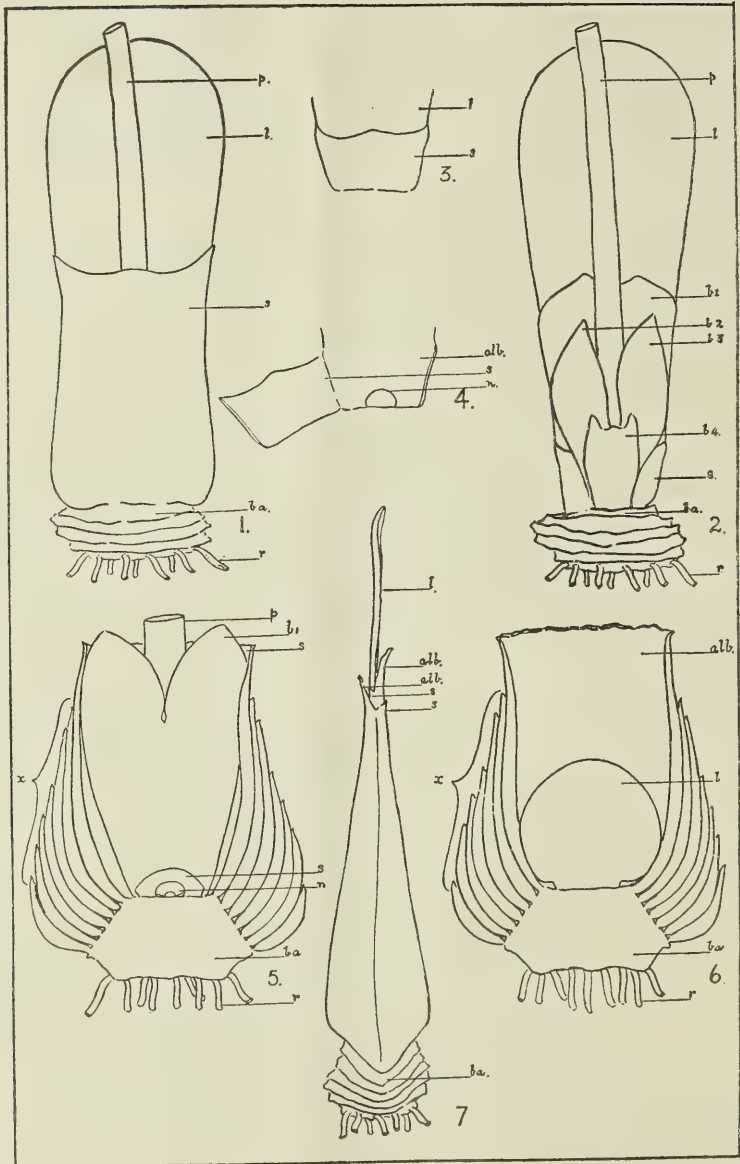
verse section of a scale gives a flattened ellipse, one side of which may be called the actual leaf base and the other, which is less thickened and composed of softer tissue, the sheath. By ringing carefully the bases of the scales close to the axis they were removed in one piece. Because of this clearly marked differentiation of the sides of the scales, it was easy to trace, from the most recent to the oldest leaf scale at the base of the axis, the direction in which each leaf produced by the bulb had faced.

At the base of the peduncle four bract-like structures are produced. Similar structures occur in all species of *Haemanthus* which have been investigated and were figured and described by Thilo Irmisch in 1860.¹ The interpretation and relationships of these will be dealt with in a subsequent paper. These structures persist for a time, varying apparently in different species, between the bulb scales and close to the basal axis. From these it is possible to trace back the years in which the bulb produced a flower. In *Haemanthus Nortieri* it was only possible to trace two years' flowers; but in *H. rotundifolius*, Gawl. the remains of brown semi-decomposed bracts have been seen on the bulb axis representing the flowers, or potential flowers, of the past twelve years. The explanation of the disappearance of these traces from the bulbs of *H. Nortieri* may lie in the fact that the leaf-sheath, growing from the base of the bulb to the ground level after the bract-like structures have withered, may carry them up with it. An endeavour will be made to clear up this point by observing the plants growing in the National Botanic Gardens at Kirstenbosch.

From the successive position of the leaves and the ability to tell when a flower has been produced, the following fact has emerged. When in any given season a bulb of *Haemanthus Nortieri* does not produce a flower, that season's leaf (following immediately after the flower) faces in the opposite direction to that of the previous season. (See Fig. 2, No. 7.) If a flower is produced, the leaf following it is in the same position a little higher on the axis than the one which preceded the flower. From Fig. 2, Nos. 1, 2, it can be seen that this season's leaf and last season's leaf occupy corresponding positions on the bulb axis, a flower having been produced between the withering of last, and the growth of this season's leaf. Within the sheath of this season's leaf, at the stage shown in Fig. 2, Nos. 4, 5, next season's bud is already well-developed.

Description—Bulb tunicated, up to 19 cm. long and 10 cm. in diam., oblong-globose, produced into a neck, laterally compressed, covered with dark brown scales. Leaf 1, hysteroanthous, erect, rotundate or obovate, narrowed into a petiole at the base, blade dirty green, basal part reddish,

(¹) Beiträge zur Morphologie der Amaryllideen.



margin red and slightly scabrid; both surfaces of the leaf scabrous and slightly viscid when young. Peduncle erect, compressed, faintly scabrous, reddish in colour, up to 20 cm. high and 1.1 cm. in diameter. Umbel dense, up to 4.5 cm. high and up to 5 cm. across. Bracts erect, dull red, varying in shape, usually ovate-lanceolate with acute apices, up to 4.5 cm. long, and 2.5 cm. broad. Flowers erect, crowded. Pedicels up to 1.4 cm. long. Perianth six-parted, rose-coloured; tube short and angular, 2 mm. long; segments narrow, apices obtuse and incurved, up to 1.5 cm. long and 1.5 mm. broad. Stamens white, 2.6 cm. long, exserted beyond the perianth segments for 1.1 cm., equalling the bracts in length and inserted in the throat of the perianth tube. Style white, finally as long as the stamens. Stigma minutely trifid. Ovary oblong, three-angled, 3 mm. long, 2 mm. in diam. Berry reddish purple. Seeds ovoid, shining, red-brown in colour, 1—3 in each berry.

In conclusion I wish to thank Dr. P. le F. Nortier of Clanwilliam for providing the material for this work, Dr. L. Bolus for facilities in the Bolus Herbarium and Prof. R. H. Compton for checking my observations.

FIG. 2. All $\times \frac{1}{2}$. *s*, sheath; *p*, peduncle; *r*, root; *l*, present season's leaf; *b.a.*, bulb axis; *a.l.b.*, actual base of leaf; *n*, next season's bud; *x*, bulb scales; *b1*, *b2*, *b3*, *b4*, bractlike structures.

1. Bulb with all the scales removed except that formed by last season's leaf. 2. Bulb with all the scales removed, showing the bract-like structures at the base of the peduncle and the sheath of the present season's leaf. 3. The base of the leaf and the sheath. 4. The sheath cut away to show next season's bud within it. (1, 2, 3 and 4 were all drawn from a bulb in fruit with the leaf appearing.) 5 and 6. The halves of a bulb sectioned when in flower. In 5 the sheath of the leaf about to grow up is seen enclosing next season's bud. In 6 the size of the leaf is shown at the flowering period. 7. A bulb in profile with all the scales cut away except the two most recent. The arrangement of the leaves is alternate—no flower having been produced in the past two years.